

Indian Journal of Physics B

Vol. 76B • No. 4 • August 2002

Contents

Proceedings of XIII-th National Conference on Atomic and Molecular Physics held at the Department of Theoretical Physics, Indian Association for the Cultivation of Science, Jadavpur, Kolkata-700 032 during 16–20 January, 2001

| | |
|---|---------|
| Front Title | 343 |
| Board of Editors | 345–346 |
| Front Contents | 347–350 |
| Foreword | 351 |
| <i>Invited Papers</i> | |
| Above and below Wannier threshold ionization | |
| D S F CROTHERS AND N C DEB | 353–357 |
| Quasi-atoms, super-atoms and quantum confinement | |
| J-P CONNERADE | 359–369 |
| New insights into small-angle electron scattering : guiding measurements | |
| A Z MSEZANE AND Z FELFLI | 371–378 |
| Single and multiple ionization of atoms by electron impact | |
| HUBERT KLAR | 379–385 |
| Laser cooling, evaporative cooling and Bose-Einstein condensation | |
| PRADIP N GHOSH | 387–392 |
| Inner shell ionisation with low velocity heavy ions | |
| MANORANJAN SARKAR | 393–400 |
| Recent developments in multiphoton strong-field physics | |
| MAN MOHAN | 401–405 |
| Does hyperfine quenching affect significantly the $^3P_2^0$ level in He-like vanadium ? | |
| T NANDI | 407–414 |
| <i>Contributed Papers</i> | |
| Application of multidimensional SSQM formalism to He atom | |
| BARNALI CHAKRABARTI | 415–419 |

| | |
|---|--------|
| Energetic photoionization of neutral and ionic metal clusters | |
| HIMADRI S CHAKRABORTY AND M E MADJET | 421-42 |
| Line strengths and line shapes of zero-phonon absorption features in solid hydrogen | |
| A P MISHRA AND T K BALASUBRAMANIAN | 425-42 |
| Physics of positronium acceptor complex formation reactions | |
| DEBARSHI GANGOPADHYAY, TAPAS MUKHERJEE, BICHITRA NANDI GANGULY AND BINAYAK DUTTA-ROY | 431-44 |
| Channeling radiation from relativistic electrons and positrons | |
| S V S NAGESWARA RAO, L N S PRAKASH GOTETI AND ANAND P PATHAK | 443-44 |
| Isotope shifts in UV lines of dysprosium : confirmation and new assignments of $4f^9 5d 6s 6p$, $4f^9 6s^2 6p$ configurations to energy levels of Dy I | |
| B K ANKUSH, M N DEO, A VENUGOPALAN AND S A AHMAD | 449-45 |
| Experimental investigation of angular dependence of scattering differential cross sections in double photon compton scattering | |
| B S SANDHU, M B SADDI, B SINGH AND B S GHUMMAN | 453-45 |
| Positronium formation in helium with electron correlation effect | |
| SABYASACHI KAR AND PUSPAJIT MANDAL | 457-46 |
| Three-body recombination at low temperature – a field theoretic approach | |
| S BHATTACHARYYA, A ROY AND B MITRA | 461-46 |
| Single photo-ionization of He – a QED approach | |
| SUJATA BHATTACHARYYA, SANCHITA MITRA AND JHUMA BANDYOPADHAYA | 465-46 |
| Normal coordinate analysis of deuterated benzonitriles | |
| A PAVAN KUMAR, K SRIRAMULU AND G RAMANA RAO | 469-47 |
| Normal coordinate treatment of some pyridines | |
| B VENKATRAM REDDY AND G RAMANA RAO | 473-47 |
| Time reversal symmetry breaking superconducting states in cuprates | |
| ANGSULA GHOSH | 479-48 |
| A new technique for high resolution emission spectroscopy of rare and radioactive isotopes | |
| A P MARATHE, A VENUGOPALAN AND B N JAGATAP | 483-48 |
| Rovibrational matrix elements of multipole moments of the heavier isotopomers of molecular hydrogen | |
| A P MISHRA, S V N BHASKARA RAO AND T K BALASUBRAMANIAN | 487-49 |

| | | |
|---|--|---------|
| Intensity and spectral distribution of 662 keV gamma rays Compton scattered from bound electrons of tin | BHAJAN SINGH, JAGJIT KAUR, GURDEEP SINGH, B S SANDHU AND B S GHUMMAN | 491-494 |
| Electron impact ionization of multiply charged ion : a BE study | KRISHNA K PRASAD, RAKESH RANJAN, SURESH K SHRIVASTAWA AND ANIL KUMAR | 495-498 |
| High resolution studies of $A^3\pi_0-X^1\Sigma^+$ band system of InCl | M D SAKSENA AND M N DEO | 499-503 |
| Transport properties of gas mixtures | KULDIP SINGH | 505-507 |
| Relativistic calculations of positron scattering from xenon (Xe) atom | NEERJA AND A N TRIPATHI | 509-511 |
| Time-dependent changes in the charge-transfer spectra of ferrocene in halocarbon solvents after photoexcitation | A THANDER AND B MALLIK | 513-517 |
| Superelastic electron scattering from potassium atoms | RAJESH SRIVASTAVA AND SACHIN SAXENA | 519-522 |
| Millimeter and submillimeter wave spectral studies of $^{13}\text{CD}_2\text{F}_2$ | R D'CUNHA, K KAWAGUCHI AND M N DEO | 523-524 |
| High resolution spectroscopic studies of methyl acetylene : analysis of ν_6 band of $^{13}\text{CD}_3\text{CCH}$ | R J KSHIRSAGAR, GEETHA RAJAPPAN AND R D'CUNHA | 525-528 |
| Design and fabrication of a TOF spectrometer and a 45° -parallel plate electrostatic analyzer | R K MOHANTA, RAJESH KUMAR SINGH AND R SHANKER | 529-534 |
| Two-photon excitation using L^2 technique | R KUNDLIYA, V PRASAD AND MAN MOHAN | 535-536 |
| Computerized electronic locking system for diode laser frequency locking by saturated absorption spectroscopy of cesium | S J GAUR, S PRADHAN, K G MANOHAR AND B N JAGATAP | 537-539 |
| Photoionization of noble gas atoms | S N TIWARY, R R PANDEY AND R P ROY | 541-544 |
| Laser cooling and trapping of cesium atoms in a magneto-optical trap | S PRADHAN, A P MARATHE, S J GAUR, A VENUGOPALAN, K G MANOHAR AND B N JAGATAP | 545-547 |

Theoretical elucidation of the infrared activity of "symmetry-forbidden" overtone bands of CO₂ induced by asymmetric isotopic substitution

T K BALASUBRAMANIAN AND R J KSHIRSAGAR 549-551

Synchronization in chaotic Jerk dynamical systems

V PATIDAR AND K K SUD 553-557

Incoherent scattering functions of some medium and heavy elements at 4.808 Å⁻¹ photon momentum transfer

N GOVINDA NAYAK, GERALD PINTO AND K SIDDAPPA 559-561

Two-photon ionization using pseudostate summation technique

R KUNDLIYA, K BATRA AND MAN MOHAN 563-564

Time evolution of SERS of α -bithiophene and α -terthiophene adsorbed on Ag-sols

UTTAM K SARKAR AND T N MISRA 565-568

Theoretical total cross sections of e -H₂O collisions in water, ice and dimer forms

K N JOSHIPURA, MINAXI VINODKUMAR, B K ANTONY AND
C G LIMBACHIYA 569-571

Ionized helium induced ionization of atomic hydrogen

S BHATTACHARYA, S SAHOO, R DAS AND K ROY 573-576

Correlation effects on peptide molecules

PUSPITAPALLAB CHAUDHURI AND SYLVIO CANUTO 577-580

Elastic scattering of electrons from methane molecule

NEERJA, A N TRIPATHI AND A K JAIN 581-582

Forthcoming Publications (A) 585-5

Notes for Contributors 587-588

Announcements 591-592

Contents from back cover (Cont'd.) 597-5